

Application No. 09/781,061

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listing of claims in the application.

LISTING OF CLAIMS:

21. (Withdrawn) A process for making a shaft assembly comprising:

gas injection molding an elongated member having at least a portion which is hollow having an inside surface defining a shaft core and an outside surface defining a shaft functional surface;

providing the elongated member with an aperture gate extending from the inside surface to the outside surface;

placing the hollow portion in a mold which has a cavity for the at least one functional feature on the outside surface of said portion;

filling the mold with a hardenable, moldable material, flowing the moldable material through the shaft core and aperture gate;

permitting the moldable material to harden to form a functional feature; and

removing the shaft assembly with the functional feature from the mold.

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22. (Withdrawn) A process for making a shaft assembly comprising:

 injection molding an elongated member using a gas, the elongated member having hollow portion defining a shaft core, inside surface, and an outside surface defining a shaft functional surface;

 forming at least one aperture in the elongated member extending from the inside surface to the outside surface;

 filling the hollow portion with a moldable material such that the moldable material flows through the shaft core and the at least one aperture; and

 coating at least a portion of the shaft assembly with a material adapted to provide a frictional driving surface.

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23. (Currently Amended) A shaft made by the process comprising:

gas injection molding an elongated member having at least a portion which is hollow having an inside surface defining a shaft core and an outside surface defining a shaft functional surface;

forming at least one aperture in the elongated member extending from the inside surface to the outside surface;

placing at least a portion of the shaft in a mold;

filling the mold with a hardenable, moldable material, flowing the moldable material through the shaft core and the at least one aperture;

permitting the moldable material to harden to form a functional feature; and

removing the shaft from the mold[.] wherein the functional feature includes an outside offset portion extending the entire outside perimeter and for a distance along a length of the shaft and an inside offset portion extending the entire inside perimeter and for a distance along the length of the shaft, the inside offset portion extending in a direction away from a center of the shaft core and the hardened, moldable material extending from the inside surface through the aperture gate, the material formed on at least a portion of the outside surface.

24. (Withdrawn) A process for making a shaft assembly of claim 21 wherein gas injection molding includes forming the elongated member such that the distance from the inside surface to the outside surface along the elongated member is substantially similar.

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25. (Withdrawn) A process of claim 54 wherein injection molding using a gas includes forming the elongated member such that the distance from the inside surface to the outside surface along the elongated member is substantially similar.

26. (Currently Amended) A The shaft of claim 55 23 wherein gas injection molding includes forming the elongated member such that the distance from the inside surface to the outside surface along at least a portion of the elongated member is substantially similar.

27. (New) The shaft of claim 23 further comprising coating at least a portion of the shaft with a material adapted to provide a frictional driving force.

28. (New) A shaft made by a process comprising:
using a gas to assist in forming an elongated member having an inside surface, an outside surface, an inside perimeter on the inside surface and an outside perimeter on the outside surface defining a shaft and a shaft core, said elongated member including a functional feature portion, the functional feature portion includes an outside offset portion extending the entire outside perimeter and for a distance along the length of the member and an inside offset portion extending the entire inside perimeter and for a distance along the length of the member, the inside offset portion and the outside offset portion extending in a direction away from a center of the shaft.

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29. (New) The shaft of claim 28 wherein the elongated member has a one piece construction.

30. (New) The shaft of claim 28 wherein the elongated member comprises a plastic.

31. (New) The shaft of claim 28 wherein the elongated member comprises at least one of SPS, polycarbonate, Acetal and ABS.

32. (New) The shaft of claim 28 further comprising a coating applied to at least a portion of an outside surface of the elongated member.

33. (New) The shaft of claim 28 wherein the elongated member further comprises a material selected to provide a frictional driving surface.

34. (New) The shaft of claim 28 wherein the shaft comprises at least one of a plastic, urethane, elastomer, and rubber.

35. (New) The shaft of claim 28 wherein the shaft assembly includes an outside periphery having at least one portion offset radially from at least one other portion.